ABSTRACT

A computer-implemented automated decision support system for designing an auction for a given item includes a structure extractor that estimates unknown elements of market structure of the auction based on auction characteristics data extracted from historical auctions for similar items and a bidding model matching the extracted auction characteristics data. The decision support system also includes a bidding behavior predictor that predicts bidding behaviors of bidders in the auction based on the estimated unknown elements of market structure and characteristics of the auction. In addition, the system includes an optimizer that employs an evaluation criterion to generate an evaluation of the auction based on (1) the estimated unknown elements of market structure and (2) the predicted bidding behavior of bidders. A method of providing an automated auction analysis is also described.